GANGRENOUS ANGINA

BY

J. D. ROLLESTON, M.D.

ASSISTANT MEDICAL OFFICER, GROVE FEVER HOSPITAL, LONDON

[*Reprinted from* '*The Antiseptic*,' *October*, 1912, *Vol. IX*, *pp.* 533–537]

London

ADLARD AND SON, BARTHOLOMEW PRESS

BARTHOLOMEW CLOSE, E.C.

1912

Reprinted from 'The Antiseptic,' October, 1912, vol. ix, pp. 533–537.

GANGRENOUS ANGINA.

BY

J. D. ROLLESTON, M.D.,

ASSISTANT MEDICAL OFFICER, GROVE FEVER HOSPITAL, LONDON.

Gangrenous sore throat is a rare affection. Prior to the establishment of diphtheria as a specific disease by Bretonneau in 1826 the frequency of the condition was considerably over-estimated. There can be little doubt that a large proportion of the cases described under the name of gangrenous angina were either cases of malignant diphtheria, or less frequently severe forms of scarlet fever in which the rash had been overlooked. The influence of Bretonneau's teaching was so great that for many subsequent years the existence of gangrenous sore throat was denied, although a few writers of eminence, Trousseau in particular, endeavoured to distinguish it as an independent condition. Since the description given by Morell Mackenzie in 1882 little or no mention has been made of it in English text-books. More attention has been given to it on the continent, especially by French and Italian writers.

The valuable annual statistics of the Metropolitan Asylums Board Hospitals, in which the diseases erroneously certified on admission as diphtheria or scarlet fever are returned under their correct diagnosis, make no mention of gangrenous angina. It is probable, however, that a certain proportion of the cases returned as "tonsillitis," "ulcerative tonsillitis," "septic tonsillitis," or "Vincent's

angina," especially of those that ended fatally, were really instances of gangrenous angina. Thus we find that in the course of the last twelve years (1899–1910 inclusive) out of 8444 cases certified as diphtheria but diagnosed after admission as some variety of tonsillitis there were fifty-eight deaths, six of which were due to "septic tonsillitis," three to "Vincent's angina," and the rest to tonsillitis.

Gangrenous angina may be an independent affection, but more frequently it is secondary to some other disease. Primary gangrenous angina shows a predilection for male adults between the ages of twenty and thirty and of a previously robust constitution. Secondary gangrenous angina, on the other hand, is more frequently found in children between the ages of three and six years, especially those who are ill-nourished or debilitated by a previous illness. Thus it may occur as a complication of an infectious disease, such as scarlet fever, measles, typhoid, smallpox, and very rarely diphtheria, or in the course of other diseases such as scurvy, pemphigus, herpes or noma. It may also follow traumatism to the pharynx such as a scald or the application of a powerful caustic like carbolic acid.

Bacteriology.—The bacteriology of gangrenous angina is yet far from settled. Some authorities regard is as a mixed infection of streptococci and saprophytic bacteria. Lastra attributed ætiological importance to the *Leptothrix buccalis*, which he found in two cases. Buday and his assistant Vezpremi hold that the fusiform bacilli and spirilla described by Vincent play a predominant part. In addition to the organisms already mentioned the following have been found in gangrene of the throat, but are probably only of secondary importance: diphtheria bacilli, pseudo-diphtheria bacilli, *Bacillus coli* and members of the *Proteus* group.

In cases where no specific agent has been isolated, but only the ordinary buccal flora found, it is generally held

that the process is due to diminished resistance of the tissues to infection.

Pathogeny.—The condition may arise in one of two ways: (1) Infective bacteria circulating in the blood-stream may lodge in the submucosa and cause necrosis of this layer and of the mucous membrane. (2) The infection may at first involve the epithelium and penetrate into the deeper structures by the lymph channels.

Symptomatology.—The prodromal and initial symptoms are not distinctive, but are those of acute simple tonsillitis, viz. malaise, debility, headache, shivering, and pain in the throat which is increased on swallowing. The appearance of the throat may at first be that of a severe inflammation, but the characteristic lesions soon develop. Greyish-black or completely black sloughs with irregular and clean-cut edges appear upon the tonsils, and on separation leave more or less deep ulceration. The parts surrounding the gangrenous area become œdematous and assume a bluish-red tint. The cervical and submaxillary lymph glands may be swollen, but are often not affected. The fœtor of the breath is characteristic—hence the synonym "putrid sore throat"—and is little modified by constant spraying or syringing. In marked cases it is fæcal in character and necessitates isolation of the patient. Severe pain in the throat is complained of, and is aggravated by speaking and still more by swallowing. On this account salivation often occurs. The pharyngeal irritation provokes a frequent cough, by which portions of slough may be expelled. Fluids, the only form of nourishment possible, are in great part regurgitated. The voice is indistinct and nasal. The motions are often loose and offensive. Insomnia is the rule. A striking symptom is the early and pronounced loss of strength which is often accompanied by mental depression. Delirium may be present, or the mind may remain clear to the end. The temperature is not characteristic; there may be hyper-

thermia, hypothermia, or a normal record even in severe cases. In patients with a subnormal temperature the skin may assume the violet coloration met with in the algid stage of cholera. The pulse is weak, and in some cases below normal in frequency. Hæmorrhages from the mucous membranes and beneath the skin may occur. The necrosis may remain localised, or extend gradually to the surrounding tissues and destroy the soft palate, uvula, and posterior wall of the pharynx. In the worst cases the larynx and the œsophagus are involved. Death, however, may take place before the destruction is extreme, being either due to exhaustion in which inanition from dysphagia plays a prominent part, to broncho-pneumonia—a frequent complication in young children—or to sudden hæmorrhage from erosion of the carotid or other large vessels in the neighbourhood.

As a rule the course of the disease is short, on the average two to three weeks, but cases may extend over some months, and there is an instance on record of the disease lasting with remissions for a year and a half (Lastra).

Complications.—The following complications have been met with: phlebitis of the veins of the forearm, septic cerebral and pulmonary embolism, broncho-pneumonia, nephritis, entero-colitis, and œdema glottidis.

Diagnosis.—Diphtheria is the disease which offers the nearest resemblance to gangrenous angina. As already stated the majority of the so-called cases of angina gangrænosa, prior to Bretonneau, were probably examples of malignant diphtheria. Apart from the bacteriological criterium, a distinction can be made between diphtheria and gangrene of the throat by the progress of the disease, especially if no improvement follow injection of antitoxin. Dark patches may be present on the tonsils in both diseases, but in diphtheria the patches are white at first and only gradually become darker, whereas in gangrenous

angina they are dark from the first. On separation of the diphtheritic membrane, the subjacent mucosa is either left intact or is only superficially ulcerated, whereas in gangrenous angina there is more or less considerable loss of tissue. Further, in the cases of diphtheria sufficiently severe to be mistaken for gangrenous angina the submaxillary and cervical glands are practically always enlarged, while in gangrenous angina adenopathy is often absent. It must be remembered, however, that in very rare cases gangrene is a complication or sequela of diphtheria.

Vincent's angina clinically offers a great resemblance to gangrenous angina, a resemblance which is increased by the similarity of the bacteriological findings. Distinguishing features are the dark colour of the slough, the offensive smell of the gangrenous tissue, the progress of the necrotic process, the resistance to local treatment, and the much greater disturbance of the general condition met with in gangrenous angina. The two conditions are, however, closely related to one another, and a French authority, Roque, regards Vincent's angina as a variety of gangrene of the pharynx.

Prognosis.—The outlook in every case of gangrenous angina is grave, not only in the secondary form, where the patient is already enfeebled by the original disease, but also in the primary form. Of thirty-eight cases of the latter collected by Poppi twenty-one died. Generally speaking, the prognosis will depend upon the extent of the necrosis. The possibility of sudden and fatal hæmorrhage from erosion of a large vessel must be borne in mind.

Treatment.—Although local treatment has little power as a rule to check the progress of the disease, it is well to employ the usual methods for cleaning the throat, such as syringing with a solution of potassium chlorate and

myrrh, hydrogen peroxide, or potassium permanganate. In a case recorded by Citelli recovery followed the injection of anti-streptococcic serum, but in other cases this remedy was of no avail.

The recent success of salvarsan in severe cases of Vincent's angina, either by direct application or by intravenous injection, suggests that this drug might be of service.

Attention should be paid to the general condition. Mouth-feeding may have to be supplemented by nutrient enemata. The strength should be supported, and sleep should be obtained if necessary by hypnotics. In a case recently under my care improvement started from the time that a good night's rest had been secured by the administration of trional.

The occurrence of œdema glottidis will require intubation or tracheotomy.

ADLARD AND SON, IMPR., LONDON AND DORKING.